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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,941	09/14/2006	Johan Torsner	P17895-US1	3583

27045 7590 12/08/2009

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EXAMINER	
DONADO, FRANK E	
ART UNIT	PAPER NUMBER
2617	

MAIL DATE	DELIVERY MODE
12/08/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/551,941	TORSNER, JOHAN	
	Examiner	Art Unit	
	FRANK DONADO	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 August 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/19/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed on 8/10/09 has been entered. No claims have been amended. No claims have been cancelled. No claims have been added. Claims 1-12 are still pending in this application, with claim 1 being independent.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-9, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vayanos, et al **(US Patent No. 6,901,063)**, in view of Yun, et al **(US PG Publication 2002/0176362)**. From now on, Vayanos, et al, will be referred to as Vayanos, and Yun, et al, will be referred to as Yun.

Regarding claim 1, Vayanos teaches a method of reducing impact of

transmission errors by means of a retransmission protocol, utilizing a retransmission loop involving packet radio transmissions from user equipment to a control element connected to one or more radio base stations, **(User equipment (UE) 106 is in communication with Node B 104 in a UMTS system, where a retransmission of packets is occurring from the UE to the Node B, a controller 1330 is connected to Node B, and the base station and the UE are part of a UTRAN system that includes a Radio Network Controller, Column 32, lines 31-32, Column 33, lines 24-26 and 35-37, Column 4, lines 13-21 and 44-47 and Figure 13)**, wherein the user equipment radio transmissions are received at one or more radio base stations for forwarding to the control element **(The packet is received by the system controller 1330 at Node B, where the system controller serves as the control element in Figure 13, Column 33, lines 24-26 and 35-39)**, the base station acknowledging, positively or negatively, transmissions from the user equipment and the control element acknowledges, positively or negatively, transmissions forwarded to it **(Column 33, lines 35-41)**. Vayanos does not teach acknowledgment of base station transmissions from a control element. Yun teaches acknowledgment of base station transmissions from a control element within a Controller **(**A Base Station Controller sends acknowledgment of base station transmissions from a control element within a Controller, Paragraphs 213 and 214**).** It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Vayanos to use a Base Station acknowledgment in this manner for the benefit of added security.

Regarding claim 2, Vayanos, in view of Yun, teaches the method according to claim 1. Vayanos further teaches for a process of retransmission, if same transmitted packet information content is received more than once, the received transmissions are combined **(Column 21, lines 5-14 and Figures 9A and 9B)**.

Regarding claim 3, Vayanos, in view of Yun, teaches the method according to claim 2. Vayanos further teaches successive received packet transmissions of the same information content are combined in the base station prior to determining whether or not the radio base station should acknowledge the transmitted information content **(Step 958 of Figure 9B occurs as a result of combining a packet retransmission with a prior transmission, during which an attempt is made to recover the packet, and a NAK/ACK signal is transmitted back to the transmitter, in this case a UE, depending on whether or not the packet was recovered, Column 21, lines 10-13 and 39-51)**.

Regarding claims 4 and 5, Vayanos, in view of Yun, teaches the method according to claim 2. Vayanos further teaches whether or not the packet information content is the same is determined by means of a new data indicator, and the new data indicator, accompanying packet information, is transmitted on a reliable control channel **(A separate new data indicator variable is maintained for each HARQ channel that is used to indicate whether or not a packet retransmission has occurred, Column 19, lines 24-26 and Column 20, lines 46-56)**.

Regarding claims 6 and 7, Vayanos, in view of Yun, teaches the method according to claim 2. Vayanos further teaches the process is identified by means of a process identity, and the process identity, accompanying packet information, is transmitted on a reliable control channel **(After a retransmission process is discovered, step 930 in Figure 9, the process returns to step 912 and subsequently 922, where a HARQ Process ID (HID) field is transmitted as part of a control message to indicate the channel being used in the current packet transmission, Column 20, lines 52-56 and 25-30)**.

Regarding claims 8 and 9, Vayanos, in view of Yun, teaches the method according to claim 1. Vayanos further teaches the control element reorders received packets, and the received packets are reordered into sequential order **(The controller 1330 in the Node B performs retransmission techniques that include re-ordering of recovered packets that had to be retransmitted, where the packet are reordered according to their transmission sequence numbers (TSN's), Column 2, lines 53-56, Column 33, lines 39-41, Column 21, lines 44-51 and Column 7, lines 37-42)**.

Regarding claim 11, Vayanos, in view of Yun, teaches the method according to claim 9. Vayanos further teaches the sequential order is determined from MAC sequence number **(The TSN is part of the MAC frame, Figure 3)**.

Regarding claim 12, Vayanos, in view of Yun, teaches the method according to claim 1. Vayanos further teaches the method reduces delay of uplink transmissions, the delay being associated with the retransmissions **(A "stall avoidance" scheme is implemented by detecting activity on the HARQ channels, which includes the uplink channel and is used to prevent delays arising from discovering missing packets during the packet reordering process and deciding whether or not to continue trying to recover the missing packets, Column 9, lines 5-9 and 13-20, Column 10, lines 43-45 and 66-67 and Column 33, lines 35-41)**.

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vayanos, in view of Yun, and further in view of Puuskari **(US Patent No. 7,330,439)**. From now on Puuskari, et al, will be referred to as Puuskari.

Regarding claim 10, Vayanos, in view of Yun, teaches the method according to claim 9. Vayanos, in view of Yun, does not teach the sequential order is determined from RLC sequence number. Puuskari teaches the reordering of packets in sequential order based on RLC header information that contains RLC sequence number information **(Column 6, lines 21-45)**. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Vayanos, in view of Yun, to reorder packets in sequential order based on the RLC sequence number for the benefit of transmission efficiency.

Response to Arguments

6. Applicant's arguments regarding claims 1-12, filed 8/10/09, have been fully considered but they are not persuasive for the following reasons:

Regarding Vayanos not teaching a Base Station, RNC and UE as separate distinct entities, where transmissions get forwarded from a base station to a control element, Vayanos teaches a communication system that supports handover comprising a User Equipment (UE), Node B and Radio Network Controller (RNC), as indicated in Column 4, lines 27-32 and 44-47, where said RNC functions as the control element, and, as is understood in the art, packets are forwarded in the uplink from said Node B to said RNC when originally received from UE during said handover. Regarding Yun not teaching a method characterized by the use of acknowledgments between the radio base station and user equipment in addition to the conventional acknowledgment mechanism between the UE and the control element, the Yun reference is used only to teach the acknowledgment mechanism between the UE and the control element (the limitation that Vayanos fails to teach), and, by Applicant's own admission on page 6 of 7 of the arguments, teaches this type of acknowledgment in paragraphs 211 to 215. Since Vayanos teaches the Base Station acknowledgment between the radio base station and user equipment and Yun teaches the acknowledgment mechanism between the UE and the control element, the invention of Vayanos may be modified to include this feature in the RNC.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANK DONADO whose telephone number is (571) 270-5361. The examiner can normally be reached Monday-Friday, 9:30 am-6 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rafael Perez-Gutierrez can be reached on 571-272-7915. The fax phone number for the organization where this application or proceeding is assigned is 571-270-6361.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-273-8300.

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